

## **Preliminary phytochemical study and antimicrobial activity from various extract of *Cynodon dactylon* (L.) Pers. (Bermuda) against selected pathogens**

### **Abstract**

*Cynodon dactylon*(L.) Pers. is a type of perennial grass that possesses great medicinal values. In this study, seven different solvents (acetone, chloroform, diethyl ether, ethanol, ethyl acetate, methanol, and n-pentane) were used to investigate the phytochemical constituents of the plant. The antimicrobial activity of the plant crude extract from the selected solvents was investigated against some pathogens (*Bacillus cereus*, *Bacillus subtilis*, *Escherichia coli*, *Klebsiella* spp., *Pseudomonas aeruginosa*, *Staphylococcus aureus*, *Streptococcus pyogenes*, and *Streptococcus pneumoniae*) using disc diffusion method. Crude extraction showed that ethanolic extraction produced highest yield (7.065%) followed by methanolic (5.420%) and chloroform (3.550%) extraction. The lowest yield obtained from n-pentane extraction (0.500%). Phytochemical studies confirmed the plant contains many bioactive compounds such as alkaloids, cardiac glycosides, terpenoids and steroids, saponins, phenolic compounds, flavonoids, tannins, carbohydrates and proteins. Ethanol was more effective to resolves almost all the plant constituents while n-pentane was the least. Antimicrobial study revealed that ethanol (7.0-10.0±0.0-1.0mm) and ethyl acetate (7.0-12.0±0.0-1.0mm) extracts showed broad spectrum activity to all of the tested pathogens. Both methanol and acetone extracts showed activity to *B. cereus* (8.0±0.0mm) and *B. subtilis* (7.0±0.0mm) while chloroform extract showed activity to *B. subtilis* (7.0±0.0mm) and *S.pyogenes*(8.3±0.6mm) respectively. Diethyl ether extraction showed activity only on *S. pyogenes* (7.3±0.6mm) while no activity observed for n-pentane extraction.